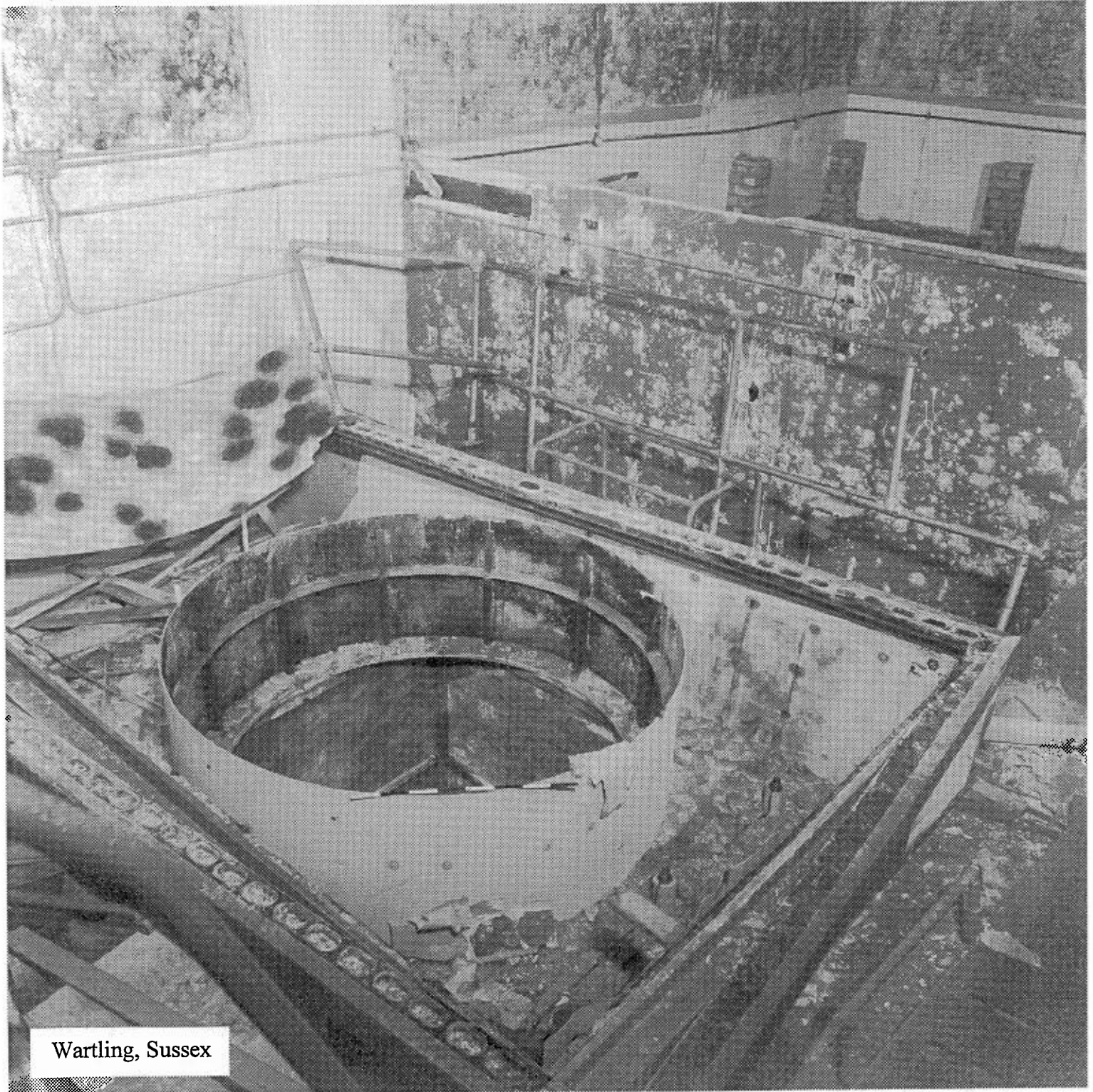


# SIREN

*The Newsletter of RSG*

**Issue 7 Winter 1999**



A large scale photographic projection display developed by Messrs. Henry Hughes, later Kelvin Hughes Ltd. In this method of producing a large, ten feet square PPI display, a PPI tube was photographed for each revolution of the aerial processed very rapidly and then projected; the delay throughout this system was about 30 seconds and the last sequence of photographs could be projected rapidly to give an indication of track. Also developed as a three colour version as a 15.5 ft. display for LINESMAN.

This picture shows the upper floor display area (note broken glass in the picture). The projection equipment was located on the lower floor.

## Editorial

Since so many members want to receive Siren, in future, will be published as part of the Secretary's Newsletter. Please notice that it is paginated as a separate entity.

As regards articles please send them in otherwise Siren will be biased in favour of your editor's particular interests which is to record de-commissioned Cold War sites. Eventually Siren will catch up with them all.

About the size of Siren - it is now printed with regard to economy of paper. It is not much smaller than previous editions but it looks like it. Your comments would be appreciated

## Letters to the editor

### Norfolk sites and Ace High

In my travels around Norfolk I note the following: There is a civil defence bunker site at New Sprowston, Norwich which is situated on the ring road. O.S. National Grid Reference: TG237112 The property looks as if it is still intact, but an enquiry to the agent got a reply stating that the property had been sold for re-development. Is this site known to Sub Brit? If it is of interest it is probably still possible to study it, before it gets altered. Agent: Pearson Commercial 12 Ber Street, NORWICH NR21 3Y Tel: 01603 762288 Fax: 01603 766121

Also: There is an underground defence radar site complex at Trimingham, Norfolk which is derelict. This is privately owned and becoming close to a crumbling coastal cliff edge. It is also near to an operational MOD site with 'golf ball' radome. National Grid Reference: TG289383 Is this site known to Sub Brit? I can try to obtain more information, if it is of further interest.

Ace High: I note from Newsletter 20 that Richard Stoodley is interested in the 'Ace High' system. ACE High was a tropospheric scatter, over the horizon, radio link system which was used for radar and defence reporting to NATO HQ in the cold war era. It used American radio equipment and had a capacity of about 48 audio channels. Radio sites in England were located in Northumbria, Lincolnshire and Maidstone, Kent and then the next hop was across the channel to the Continent. It was carefully guarded and maintained through the 1960's and 1970's until satellite type communication systems became available and rendered it obsolete. Tropospheric scatter radio links used a powerful radio wave of several kilowatts, which was sent from a highly directional transmit antenna which aimed the wave up at a tropospheric layer in the earth atmosphere. The wave then bounced off the troposphere and was received by a similar antenna at the other end of the radio link. Normal radio links provide line-of-sight communication by using a low power radio wave, of a few watts, and highly focussed antennas to propagate the wave directly between radio stations. This type of radio link has a much higher usable traffic capacity than the tropospheric scatter kind due to its more reliable transmission path. But it, has the disadvantage that more radio equipment sites are required for a route distance due to the limitations of direct line of sight radio propagation.

(I worked on the design and construction of radio communication links for more than 30 years.)

A A Bryan Penruan 7 Cross Lane, Eccles on Sea Norfolk NR12 0TB Tel: 01692 583242 6th January, 1999

### Ace High

Thank you for letter of 14th January regarding the "Ace High" communication system etc. I have also received an acknowledgement from Richard Stoodley. I have no objection to the contents of my letter being published. I will write more on radiocommunication systems when I have researched the information. I have further items which may be of similar interest, from East Anglia: Stretham, Cambridgeshire, NGR TL 512750. Near to a preserved windmill is an ROC observation bunker which has been privately owned and conserved for the past 20 years. Neatishead, Norfolk, Approx NGR TG 340190 Preserved 1960's radar site, complete with equipment, which is sometimes open to public view. (Cautionary Note: There is modern site, which is still in use, nearby) Watton, Norfolk. NGR TF 910000 Disused MoD airfield site. This was an important bomber base in the 1950's & 1960's. There is very likely to be underground facilities on this site. I saw ventilation shafts from the road. The site is up for disposal and redevelopment. 58 acres. The agents are: FPD Savills, Tel: 01603 229229 There are sufficient interesting sites to be worthwhile organising a weekend of visits in East Anglia.

A A Bryan

### ROC experiences, some sites and adaptation of an ROC post

I thought I should drop you a line in response to my receipt of Sub. Brit. materials together with Siren 6. It is good to know that I am not the only nutter about who is fascinated by bunkers. Like many others, no doubt, I first became interested when I borrowed 'Beneath the City Streets' from my local library. I was hooked! I found it simply amazing that so much underground activity could take place under the noses of the public without them knowing about it! A few years later I joined the ROC and served with a great bunch on Whitley Bay Post, Durham Group. Our Durham control was surface constructed - purpose built bunker next to the River Wear in Durham itself. Even though we were 'in the system' we didn't automatically know all the other parts i.e. RSG's etc. Indeed, I didn't know the location of SRHQ:11 Hexham until some time after I left the ROC!! As there were shortages of volunteers in the remote reaches of our area our post was permitted to be over-manned. During exercises we would send crews to man-up posts in the wilds of Northumberland. My adopted post was at Byrness about one mile into the military ranges off the A68 just a couple of miles from the Scottish border. My plan was to take my survival gear and sit-out Armageddon in splendid isolation!! During my time in the ROC I was able to visit the ROTOR bunkers at RAF Boulmer and RAF Fylingdales. (Those huge radars inside the golf balls were simply awesome!)

I have been researching my own gazetteer of all the strongholds of the nuclear era. Much of my conclusions have been achieved by collating information from known publications coupled with personal knowledge and a highly trained ear for the little snippet of information which may be the final piece of the jigsaw. When we got ourselves wired up to the internet I was ecstatic to find the Sub. Brit. site. Even more so when I found the RSG sites. I was thoroughly pleased to be able to confirm that a number of deductions on my part were accurate. Indeed my gazetteer was pretty much spot on! A few questions remain, but no doubt, patience will be rewarded.

1. Hartland point 2 level ROTOR bunker: What is the fate of this site as Portreath appears to have replaced it as an operational radar installation.

2. Dinorwig Hydro-electric Power Station: I've been in there, an amazing excavation! But surely the anonymous system took advantage of the opportunity? So what else is in there?

Finally, I am about to help with the adaptation of a former ROC Post in Norfolk to use as a radio site by Air Cadets. I will take some pictures, it will be an interesting little snippet for Siren,

W (Bill) Scott Shrubland Cottage, Brockford Green, Suffolk, IP14 5NL

### **Tunbridge Wells and Hollywell North Wales**

That story in Siren about Tunbridge sounds a bit like the war room built in the early 1950s for Region 12 later a sub for RSG12 then SRC 51. After they had finished with it, it was listed as a Police Coms centre.

A while ago in 1984 I visited a museum at Grange Cavern, Hollywell North Wales. Would any members have any idea what happened to it. I understand it had been a RAF MU for storing bombs.

PS War Room, Hawkenbury Forest Road, Tunbridge Wells.

? - 1959 War Room

1959 - 1965 12/1 sub

1965 - 1972 SRC 51

Then police came

Dates are very hasty when dealing with this subject matter

A. Smith, 1A Walton Avenue, Middlesbrough TS5 7RN

See book review on the Tunbridge Wells installation later in this newsletter. Ed.

### **Burlington - Corsham's Cold War Bunker**

This is discussed in the Daily Telegraph, 6.1.1999. The article is a precursor to a short TV presentation on Channel 4 News. Duncan Campbell uncovered the secrets of the bunker from documents in the Public Record Office. The bunker was finished in 1962 being built in an old quarry 100 feet below ground. It was humanised by being constructed as a replica of Whitehall every ministerial

department being represented. There was a pub, a medical centre, a dentist's, a baker's, a laundry etc. In the event of nuclear war 5000 civil servants and select government ministers could have attempted to control the country. Obviously the installation contained an enormous telephone exchange. The article includes a very fine plan of the bunker. Readers are also referred to Nick McCamley's recent, Secret underground Cities, Leo Cooper.

As a footnote it has been recently published on television that the government concluded in the 60s that Britain could be completely devastated by a sustained Soviet nuclear attack.

### **Wind and Radioactive Fall-out**

Recently released papers from the 1960s describe how the Meteorological Office would have had a key role in the event of nuclear attack. How would radioactive fallout be spread by winds? Weather stations would have to be provisioned and maintained for a state of siege. Weathermen would be expected to subject themselves to very high doses of radiation while making measures but would not be expected to kill themselves as they would be difficult to replace.

For the public a red alert would mean immediate danger of attack and a continuous siren would sound. Fallout within one hour (grey code) would be announced with sirens and church bells except possibly in Scotland when shouts and whistles might have to suffice. Gongs, moroons and whistles could mean a black alert with the fallout now arrived.

The weather HQ might have had to move from Bracknell to Gloucester.

The Times 10.9.99

### **Uncarthing the Nucleus**

Peter Laurie concluded it did not exist. The Spies for Peace looked for it. Duncan Campbell claimed he had found it. Found what? The National Seat of Government, the Emergency Government War Headquarters, the Nucleus, Burlington call it what you will, but it was the big one. The Holy Grail of bunker hunters. It was we were told an underground city for thousands including the Government and the Royal Family. It had shops, its own pub, even an underground railway. The trouble was no one who really knew was talking and virtually everything that was 'known' about it was apocryphal. I had been researching the 1980 civil defence plans and had never found any mention of any level of post-nuclear attack government above the regional headquarters level. I concluded, like Laurie that it did not exist.

Then Andy Stulpa told me about the Public Record Office and gave me some initial pointers from his research about where to start looking. The PRO is a marvellous place to study in and its staff is very helpful but the major drawback is that there is no meaningful index. The files

are listed by Government Department and then by Class. Each class covers a general area e.g. HO322 cover post-war Home Office civil defence files but each Class can contain thousands of files and there is only a short title to guide you as to what its subject may be. Often it is a case of hit and miss. You have to kiss a lot of frogs at the PRO before you find your Prince, or Princess!

I had by this time already looked through the 1950s Civil Defence Corps Circulars at the British Library and come across reference to a Central Government War Room or CGWR in the chain of command above the Regional Seats of Government (which, of course, we also knew relatively little about but named our group after). So there was something but I did not know what it might be or where it was.

One of the files Andy pointed me towards talked about a central government Nucleus in 1959 that would support the War Cabinet and would perform a limited range of central government functions. So there really was something - but what? Despite being baulked by many interesting sounding files being 'retained by department' i.e. not to be looked at by nosy researchers, I came across further hints to this Nucleus and the CGWR and even a code name 'Subterfuge' but nothing definite and I did not know where else to look.

Then I made the break through. A newspaper published an article about RSG staffing based on a PRO file. I spoke to the journalist and got the file reference. The file proved relatively unhelpful. But could there be something else close to it in the class list? I looked it up. The next file was titled 'Command Organisation in Nuclear War'. Now this sounded very promising but it was marked as 'retained' Despite this I tried for it and to my surprise a file heavily stamped "Top Secret" soon arrived. I looked through it in an increasing cold sweat. My Princess had come! Here was mention of Burlington, which Duncan Campbell had told me was a code name for the central government war headquarters, and also Subterfuge and Turnstile together with a report on their operational aspects. This was the key to my subsequent discoveries. Using it I was able to put together the operational concepts behind the war headquarters from 1954. But where was the site? All operational detail had been stripped from the files and destroyed but 'they' had inadvertently left a couple of clues.

One memo talked about capping an airshaft. An exchange of E-mails with Nick McCamley left me in no doubt that we were talking about Campbell's fabled Spring Quarry site. Another file expressed doubts about locating a new NATO HQ at Box for fear that it would compromise Burlington. The only way it could do this, I reasoned, was if Burlington was at Box. And Box is next to Spring Quarry.

But what were Quadrilateral and MacAdam, which also appeared to be code names. Further digging suggested these were the same site but a reserve War HQ. But where was it? One file mentioned that the air intakes were vulnerable. Campbell has speculated that a place in Wales with an unpronounceable name was the reserve site and published a photo of a very flimsy air intake. Consequently, Quadrilateral must be this site and the mystery of the reserve was solved.

By now I had exhausted all the files - or so I thought. Another helpful journalist told me there were separate lists of recently released files. I found these and they lead me to another gold mine - the Cabinet Committee reports relating to civil defence. Using these I was able to add to the War HQ story but when I found a staffing list for the RSGs I thought it was time to stop looking and write up my findings. But should this information be kept secret? I reasoned that as so much had been removed from the PRO files anything that was left could not be considered sensitive and could therefore be published. So I wrote 'Control Chain'- a 25000 word history of home defence from 1948 to 1968. (If you would like a copy send a £6.00 cheque with your name and address printed on the back to S P Fox, 24 Parkdale, Danbury, CM3 4EH).

Is there anything more to find at the PRO? Undoubtedly yes and I have already got references for electricity and railway bunkers amongst other things so watch this space.

SPFox April 1999

### **Ashley Road Deep Air Raid Shelter, Epsom Surrey**

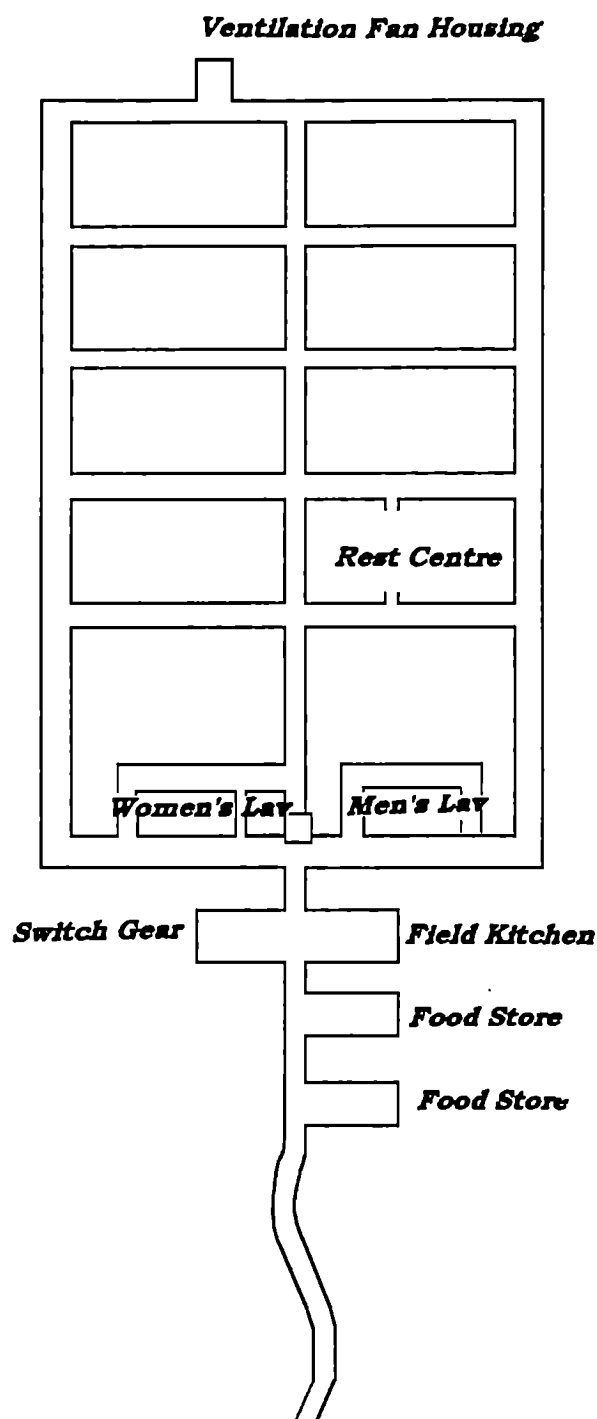
This was visited by Malcolm Tadd, Nick Catford and Vince Allkins Ray Harding and others on 17.3.98.

A footpath off Ashley Road, Epsom leads to Chalk Lane. A little off this footpath is a long wide cutting in a wood which leads down to the shelter entrance. The entrance is approximately 30 feet below ground level at this point. The door to the shelter was broken off and anyone could walk in. There were no 'keep out' signs. This is what made our visit possible. Until recently the shelter belonged to the authorities and was secret. But it had been up for sale which was probably the reason for it being left in an insecure condition. We did not know if anyone had bought it, but inside there was some new electric cable (vandalised) and two new brick walls in the lavatory area. There was a general appearance that the shelter had been re-abandoned. There were crude rude recent chalk wall drawings near the entrance.

The shelter was designed for a considerable number of people and it is believed to have been constructed during WWII but not used. It was later put in readiness for the Cold War but locked up became the subject of local rumours. For example it was believed to be an underground hospital. At the time of our visit it had considerably deteriorated - most wooden parts had crumbled to dust and steel work was highly corroded, except that corrugated steel lining, which was present in parts of the shelter, was as good as new. Light fittings had corroded to nothing or had been stripped out. Except at the far end there was little sign of ventilation trunking. Deterioration was obviously due to the extreme dampness of the system.

The whole installation was dug into chalk. There were three types of passages. Firstly brick-lined ones which constituted the majority. Secondly pure chalk passages (flint much in evidence) which had wire mesh ceilings doubtless to collect falling chalk of which there was practically none. Thirdly, in other places the walls were of chalk but the roof was protected with a corrugated steel lining supported by an arched steel framework. (As used

## Ashley Road Deep Shelter, Epsom



in collieries.) Some of the brick-lined passages were whitewashed.

The passages except in the food storage areas were about 8 feet high except in the food storage areas which were lower. The passages were also about 8 feet wide. There were no signs of bunk beds or benches. The canteen/rest-room area was stripped out. The installation was well provided with water. A wide square shaft in the lavatory led up about 30 feet and contained a large water tank.

In the toilet area there were 15 pairs of facing cubicles in the 'ladies' and a similar numbers in the 'gents'. Unfortunately all the toilet bowls had been systematically smashed. The 'ladies' and gents were mirror images but instead of a somewhat rudimentary urinal in the 'gents' there was an enamel bath in the 'ladies'. In the 'ladies' the lavatory cisterns were all 'Marshall'. In the 'gents' there was a mixture of cistern types: Burlington, The Original Burlington, Scratchley Bros 21- 23 Woodville Road, Thornton Heath, Shanks, The Leader, Young Martin Ltd, Pioneer, Stratford, E. What was visible of the toilet bowls seemed to indicate they were all likely to be 'Champion' even in the 'ladies'.

Concluding remarks: Most large and so-called deep underground air raid shelters in WWII were adaptations of existing underground places. South of London, Chislehurst and Reigate are examples. There were some purpose-built shelters e.g. at Coulsdon, and Ashley Road appears to be another example but one which continued into Cold War times. It is likely that it was not actually used during WWII. Despite it having a large capacity, as evidenced by the number of toilets, it would have served a minuscule proportion of the local population let alone Londoners. The extensive deterioration in 1998 indicates that the shelter had not been maintained for some time and had been vandalised..

Ashley Road shelter was the subject of Sam Dawson's letter to me of 16th June 1996. In 1981 and 1983 he had also found that the shelter had been broken into and that it was possible to explore it. Even at that time it was in a very deteriorated state and in the hands of the Property Services Agency. But he talks of Elsan toilets not permanent ones. He also says there were used to be more surface features, i.e. tops of ventilation shafts, than there are now.

About 1986 the shelter acquired some publicity when a boy was trapped after climbing down the rear ventilation shaft. He was rescued by the Fire Brigade.

In recent weeks PACE has advertised the shelter for sale as an, 'extensive net-work of underground storage bunkers.'

Photographs:

Nick Catford made an extensive photographic survey of the shelter.

Malcolm Tadd

**Royal Commission on the Historical Monuments of England  
Cold War Project**

**Bound reports for sale**

RAF Ash, Kent - Radar station. 13pp  
RAF Bard Hill, Norfolk - Radar station. 7pp  
RAF Barnham Suffolk - nuclear bomb store. 21 pp illus  
RAF Bawdsey, Suffolk Radar Station and Bloodhound. Mk II Missile Site illus  
RNAD Broughton Moor, Cumbria, Armament depot. illus  
Cambridge - Regional Seat of Government. 24pp illus  
Chester - Western Command Headquarters. 9pp  
RAF Fylingdales, BMEWS.  
Hack Green Cheshire - Radar Station/Regional Seat of Government. 19pp illus  
Hexham, Northumberland- Regional Government Headquarters. 4pp  
Frodsham, Cheshire AAOR/Emergency Planning Centre 8pp illus  
RAF Langtoft, Lincolnshire - Radar station. 8pp  
RAF Sandwich, Kent - Radar station. 8pp  
RAF Stenigot, Lincolnshire, Radar Station. illus  
RAF Stenigot, Lincolnshire, NATO Forward Scatter Station.  
Swynnerton, Staffordshire- Regional Government Headquarters. 7pp illus  
RAF Trimingham, Norfolk - Radar station 8pp  
Tunbridge Wells, Kent - War Room 8pp illus  
RAF Woolfox Lodge, Rutland, Bloodhound MkI Missile Site. illus

**‘Dangerous Energy - explosives project**

Royal Naval Cordite Factory, Holton Heath Dorset, Acetone factory. 16pp illus

Cost £5 each except For RAF Bawdsey which is 10

Cheques be made payable to English Heritage.

Orders to:

RCHME, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 2BU

**Note Sub. Brit. are buying most of these and they will be summarised in forthcoming Sirens.**



## BOOK REVIEWS

**RGHQ 10.2, Hack Green, Cheshire.** Wayne Cocroft, Royal Commission on Historical Monuments in England: Cold War Project Survey Report: ii + 16pp + 4pp plans. 1998. Availability: £ 5.00 from English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge CB2 2BU

**Abstract:** This structure, at SJ 645479, is a 'semi-sunken heavily protected bunker', initially constructed in the early 1950s as part of an R6 Rotor radar station, occupying what had been a WWII radar station site. The RGHQ 'sites at the centre of a complex sequence of military land use, which has been adapted since the Second World War to match changing defence needs.' The report describes the final form of the R6 Rotor structure after it had been converted to a Regional Government Headquarters. The site was possibly originally chosen as being on or near WWII 'stop-lines' along the Shropshire Union Canal and the dismantled railway line between Nantwich and Market Drayton. The main building is 50.6 m x 31.28 m in plan, with two main floors. The main external walls are 0.60 m thick, and 'largely featureless.' A projecting stand-by generator room was added on the west side in the 1970s. There is an associated electricity sub-station, and a sewage plant. There were extensive modifications to the structure, after about 10 years of dereliction, from about 1980 onwards. The RGHQ became operational in 1984. Details of the new internal rooms layout are given.

Paul W Sowan

**War Room, Tunbridge Wells, Kent** Wayne Cocroft Royal Commission on Historical Monuments in England: Cold War Project Survey Report: i + 6pp + 2pp plans / sections. 1997. Availability: £5.00 from English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge CB2 2BU

**Abstract:** This structure, at TQ 59553880, was in course of demolition at the time of the RCHME investigation in September 1997. It was a 'heavily protected double-storey surface bunker', constructed about 1953 for the Regional Commissioner of Home Defence, Region 12, to provide protection from the effects of atomic weapons. It was superseded in favour of more heavily protected Regional Seats of Government in the mid- to late-1950s, but used again from the early 1960s until 1972 as a sub-Regional Control centre, and subsequently used as a police communications centre.

Tunbridge Wells was one of 17 such War Rooms provided for the UK, and was designed to accommodate around 50 key personnel. It rapidly became out-of-date as nuclear weapons power escalated with the introduction of thermonuclear devices, its primary function passing to the Dover Castle site.

The building was 27 m x 22.8 m in plan, with reinforced concrete exterior walls 1.5 m thick. It had the usual central

map-room two storeys high, surrounded by offices, accommodation for personnel, plant rooms, stores, etc. Demolition contractors reported the roof slab to have been 2.13 m thick.

Paul W Sowan

**RAF Barnham, Barnham, St. Edmundsbury, Suffolk.** Wayne Cocroft. Royal Commission on Historical Monuments in England: Cold War Project Survey Report: ii + 15pp + 5pp plans / sections. 1998. £ 5.00 from English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 2BU

**Abstract:** This site on Thetford Heath (at TL 85177988) was developed, with surface buildings only, from 1953 onwards for the storage and maintenance of nuclear weapons, and used for this purpose until about 1963. The site has been in private use for light industrial purposes at least since 1965, and is little altered, the majority of the buildings, boundary fences, and watch-towers remaining. A second similar nuclear weapons store was at Faldingworth, Lincolnshire.

The main site is pentagonal in plan, and covers 9 hectares (23 acres.) Nuclear weapons include bomb casings and associated electronic systems; precisely machined fissile uranium or plutonium core parts; and equally precisely machined high explosive elements. The fissile and high explosive components, both inherently unstable, were stored separately for obvious-safety reasons and because storage as assembled bombs would lead to difficulty in monitoring the components' condition and to deterioration of the electronics systems. Fissile material and conventional high explosives probably had to be reprocessed from time to time, as a result of unavoidable deterioration.

Over 50 small storage huts were available for the storage of fissile cores, although it is thought that these were never all occupied ... so many were erected, it is suggested, to give an impression of strength to a potential enemy! There were fewer, larger storage buildings for the conventional explosives and other components, and facilities for periodic inspection. Ancillary buildings include electrical plant, guardrooms, water tanks, barracks, gymnasium and mess block, a dog compound with 'runs' for 10 dogs, and five observation towers. The fissile materials storage huts, of two designs (some for one fissile component, some for two) are 2.54 m x 2.39 m x 2.74 m high, and 2.92 m x 2.39 m x 2.74 m high. Cavities in the floors of the hut indicate provision for storage of objects 0.44 m in diameter, and over 0.54 m long. The fully-assembled nuclear weapons initially stored are known to have been the 'Blue Danube' design, 7.3 m x 1.52 m diameter, and was a free-fall atomic bomb, weighing 4,636 kg in total. Free-fall nuclear weapons were phased out from late 1962, and it is not clear that any later nuclear weapons types, including thermonuclear, were ever stored at Barnham.

Paul W Sowan